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NORRIS, MCLAUGHLIN & MARCUS
875 THIRD AVE
18TH FLOOR
NEW YORK, NY 10022

| EXAMINER |
|---|
| KESSLER, CHRISTOPHER S |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/510,914 | GRIEDER ET AL. | |
| | Examiner | Art Unit | |
| | CHRISTOPHER KESSLER | 1793 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *27 August 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *14-27 and 34-44* is/are pending in the application.

4a) Of the above claim(s) *14-27 and 44* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *34-43* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/08/04; 12/03/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Election/Restrictions*

1. Applicant's election with traverse of claims 34-43 directed to a method of production, in the reply filed on 27 August 2008 is acknowledged. The examiner notes that applicant has chosen claims directed toward the production of a cement containing building material, corresponding to original group II. The traversal is on the ground(s) that the two separate groups of claims would not constitute a burden for searching. This is not found persuasive because in the examiner's experience, this is not the case. Further, there are currently more than two distinct groups of claims pending in the instant case, as was clearly stated in the Office action of 7 September 2007. The pending claims are drawn to at least three separate inventions, and they lack a special technical feature.

The requirement is still deemed proper and is therefore made FINAL.

Claims 14-27 and 44 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim.

### *Status of Claims*

2. Responsive to several amendments filed and the restriction requirement, claims 34-43 are currently under examination.

### *Information Disclosure Statement*

3. The information disclosure statements (IDS) submitted on 8 October 2004 and 3 December 2004 were filed before the mailing date of the Actions. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner. The Office Actions in Applicant's related international cases have been considered by the examiner, but have been crossed off the IDS. Because these documents are unavailable to the public, they will not appear in the references cited page. Any documents not available in English have not been considered, and so have been crossed off the IDS.

### *Claim Rejections - 35 USC § 102*

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 34-39, 41 and 42 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Patent Document JP 8-154524 (machine translation attached; hereinafter "Shinohara").

Regarding claim 34, Shinohara teaches the invention as claimed. Shinohara teaches a method of making a marine environment (see Abstract). Shinohara teaches that a support structure is erected using mineral building materials (see [0006]). Shinohara teaches that the mineral building materials have added copper powder and

other biologically active powders (see [0004]). Shinohara teaches that the mineral building material mixture comprises 10g aluminum powder, 10g iron powder, 30g a mixture of charcoal and activated carbon powder, 30g magnesium, 30g quicklime, 6g of coke, 10g zinc dust, 0.1g white phosphorous, 0.1g copper powder, and about 25g of manganese dioxide permanent magnets (see [0006]). The amounts of iron, zinc and copper fall within the claimed range, thus anticipating the range. Applicant is further directed to MPEP 2131.03.

Regarding claim 35, Shinohara teaches that the marine life is attracted to the structure and that the structure disintegrates and promotes sea life (see [0005]), and that the sea water is purified and seaweed proliferates as a nutrient (see [0007]), thus meeting the limitation of improved bio-energetic properties. Further, the improvement of bio-energetic properties would be inherent in the structure made by the process of Shinohara, because the same process using the same materials must inherently possess the same characteristics. Applicant is further directed to MPEP 2112.01.

Regarding claim 36, the additive elements of charcoal and activated carbon in the process of Shinohara would have the effect of improving thermal insulation properties. The improvement of thermal insulation properties would be inherent in the structure made by the process of Shinohara, because the same process using the same materials must inherently possess the same characteristics. Applicant is further directed to MPEP 2112.01.

Regarding claim 37, the additive elements of charcoal and activated carbon in the process of Shinohara would inherently reduce the specific gravity of the mineral building material. Applicant is further directed to MPEP 2112.01.

Regarding claim 38, the addition of charcoal and metal powders would have the effect of coloring the mineral building material. Applicant is further directed to MPEP 2112.01.

Regarding claim 39, Shinohara teaches that the total additive includes 10g aluminum powder, 10g iron powder, 30g a mixture of charcoal and activated carbon powder, 30g magnesium, 30g quicklime, 6g of coke, 10g zinc dust, 0.1g white phosphorous, 0.1g copper powder, and about 25g of manganese dioxide permanent magnets (see [0006]). Shinohara teaches that the cement in the cement containing material is 2500g (see [0006]). Thus the amount of additive falls within the range as claimed, anticipating the range. Applicant is further directed to MPEP 2131.03.

Regarding claim 41, Shinohara teaches that the additive comprises activated carbon and charcoal (see [0006]), thus meeting the limitation of a support material.

Regarding claim 42, Shinohara teaches that the total additive includes 10g aluminum powder, 10g iron powder, 30g a mixture of charcoal and activated carbon powder, 30g magnesium, 30g quicklime, 6g of coke, 10g zinc dust, 0.1g white phosphorous, 0.1g copper powder, and about 25g of manganese dioxide permanent magnets (see [0006]). Shinohara teaches that the cement in the cement containing material is 2500g (see [0006]). Thus the amount of the metals in the additive and

support material in the additive falls within the range as claimed, anticipating the range. Applicant is further directed to MPEP 2131.03.

### *Claim Rejections - 35 USC § 103*

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shinohara.

Regarding claim 40, Shinohara does not teach wherein the copper powder and other powders have a particle size of less than 0.1mm. Shinohara does not specify what is the particle size of the powder. The examiner takes Official Notice that it would

have been obvious to one of ordinary skill in the art to have included powders of such a size because they are readily commercially available in that size. Applicant is further directed to MPEP 2144.03.

8. Claims 34-36, 39 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Publication 2003/0168781 A1 issued to Kukkonen et al. (hereinafter "Kukkonen").

Regarding claim 34, Kukkonen teaches the invention substantially as claimed. Kukkonen teaches a method of making concrete resistant to chlorine corrosion (see Abstract). Kukkonen teaches that the concrete has added to it copper powder (see [0009]). Kukkonen does not teach that the copper additive is present in amounts as claimed. However, Kukkonen teaches that the amount of copper may be decided on a case-by case basis, and may be up to several tens of a percent (see [0013]), said range overlapping the range as claimed and establishing a prima facie case of obviousness. It would have been obvious to one of ordinary skill in the art at time of invention to have used copper in an amount as claimed because Kukkonnen teaches the same utility over an overlapping range. Applicant is further directed to MPEP 2144.05.

Regarding claim 35, the improvement of bio-energetic properties would be inherent in the structure made by the process of Kukkonen, because the same process using the same materials must inherently possess the same characteristics. Applicant is further directed to MPEP 2112.01.

Regarding claim 36, the improvement of thermal insulation properties would be inherent in the structure made by the process of Kukkonen, because the same process using the same materials must inherently possess the same characteristics. Applicant is further directed to MPEP 2112.01.

Regarding claim 39, Kukkonen does not teach that the additive is present in amounts as claimed. However, Kukkonen teaches that the amount of additive may be decided on a case-by case basis, and may be up to several tens of a percent (see [0013]), said range overlapping the range as claimed and establishing a prima facie case of obviousness. It would have been obvious to one of ordinary skill in the art at time of invention to have used copper in an amount as claimed because Kukkonnen teaches the same utility over an overlapping range. Applicant is further directed to MPEP 2144.05.

Regarding claim 40, Kukkonen does not teach the particle size of the copper. However, Kukkonen teaches that the particle size should be sufficiently small to make sure that the reaction products of chlorine and copper do not cause expansion in the concrete (see [0012]). Thus, Kukkonen teaches that the particle size is a results effective variable with regard to expansion in the concrete, and the particle size would have been optimized by one of ordinary skill in the art through routine experimentation. Applicant is further directed to MPEP 2144.05.

9. Claims 34-36, 39, 40 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 4,801,332 issued to Selfridge et al. (hereinafter "Selfridge"), in view of Kukkonen.

Regarding claim 34, Selfridge teaches an asphalt cement paving composition (see abstract). Selfridge teaches that the composition comprises aggregate, asphalt cement, and an additive of catalysts comprising iron compounds and either manganese, cobalt or copper compounds (see claim 1).

Selfridge does not teach that the composition comprises elemental powder as claimed. Kukkonen teaches a method of making concrete resistant to chlorine corrosion (see Abstract). Kukkonen teaches that the concrete has added to it copper powder (see [0009]). Kukkonen does not teach that the copper additive is present in amounts as claimed. However, Kukkonen teaches that the amount of copper may be decided on a case-by case basis, and may be up to several tens of a percent (see [0013]), said range overlapping the range as claimed and establishing a prima facie case of obviousness. It would have been obvious to one of ordinary skill in the art at time of invention to have used copper in an amount as claimed because Kukkonnen teaches the same utility over an overlapping range. Applicant is further directed to MPEP 2144.05.

It would have been obvious to one of ordinary skill in the art at time of invention to have altered the method of Selfridge by adding an elemental copper powder as taught by Kukkonen (cited above), in order to prevent chlorine corrosion of the underlying steel, as taught by Kukkonen (see [0003]).

Regarding claim 35, the improvement of bio-energetic properties would be inherent in the structure made, because the same process using the same materials must inherently possess the same characteristics. Applicant is further directed to MPEP 2112.01.

Regarding claim 36, the improvement of thermal insulation properties would be inherent in the structure made, because the same process using the same materials must inherently possess the same characteristics. Applicant is further directed to MPEP 2112.01.

Regarding claim 39, Selfridge in view of Kukkonen does not teach that the additive is present in amounts as claimed. However, Kukkonen teaches that the amount of additive may be decided on a case-by case basis, and may be up to several tens of a percent (see [0013]), said range overlapping the range as claimed and establishing a prima facie case of obviousness. It would have been obvious to one of ordinary skill in the art at time of invention to have used copper in an amount as claimed because Kukkonnen teaches the same utility over an overlapping range. Applicant is further directed to MPEP 2144.05.

Regarding claim 40, Selfridge in view of Kukkonen does not teach the particle size of the copper. However, Kukkonen teaches that the particle size should be sufficiently small to make sure that the reaction products of chlorine and copper do not cause expansion in the concrete (see [0012]). Thus, Kukkonen teaches that the particle size is a results effective variable with regard to expansion in the concrete, and the

particle size would have been optimized by one of ordinary skill in the art through routine experimentation. Applicant is further directed to MPEP 2144.05.

Regarding claim 43, Selfridge does not teach that the building material comprises zinc, copper, lead, tin, antimony, silver and gold in different amounts as claimed. Selfridge teaches that the composition may comprise metal ions of copper (see claim 1).

Selfridge teaches that lead and/or zinc may be added to asphalt compositions in order to prevent cracking in blown or oxidized asphalt (see col. 2). It would have been obvious to one of ordinary skill in the art at time of invention to have added zinc and lead to the composition of Selfridge, in order to prevent cracking (see col. 2). Selfridge does not specify that these elements are present in different amounts. However, Selfridge states that the metals are added to prevent cracking. Thus, one of ordinary skill in the art would have optimized the amount of the metals without undue experimentation. Applicant is further directed to MPEP 2144.05.

Selfridge teaches that a heavy metal soap, such as a soap of tin, may be used in asphalt to prevent cracking or alligatoring, or to improve adhesion (see cols. 6-7).

It would have been obvious to one of ordinary skill in the art at time of invention to have altered the method of Selfridge by adding tin soap in order to improve the adhesion, resist cracking or improve adhesion (see cols. 6-7). Selfridge does not specify that these elements are present in different amounts. However, Selfridge states that the metals are added to prevent cracking or alligatoring, or to improve adhesion.

Thus, one of ordinary skill in the art would have optimized the amount of the metals without undue experimentation. Applicant is further directed to MPEP 2144.05.

Selfridge teaches that a salt of antimony may be added to asphalt in order to add plasticity (see col. 2).

It would have been obvious to one of ordinary skill in the art at time of invention to have altered the method of Selfridge by adding antimony salt in order to improve the plasticity (see col. 2). Selfridge does not specify that these elements are present in different amounts. However, Selfridge states that the metals are added to improve plasticity. Thus, one of ordinary skill in the art would have optimized the amount of the metals without undue experimentation. Applicant is further directed to MPEP 2144.05.

Selfridge teaches that silver or gold compounds may be added to asphalt in order to improve the physical properties (see cols. 1-2).

It would have been obvious to one of ordinary skill in the art at time of invention to have altered the method of Selfridge by adding compounds of silver and gold in order to improve the physical properties (see cols. 1-2). Selfridge does not specify that these elements are present in different amounts. However, Selfridge states that the metals are added to improve physical properties. Thus, one of ordinary skill in the art would have optimized the amount of the metals without undue experimentation. Applicant is further directed to MPEP 2144.05.

## ***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTOPHER KESSLER whose telephone number is (571)272-6510. The examiner can normally be reached on Mon-Fri, 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Roy King/
Supervisory Patent Examiner, Art Unit 1793

csk